

Attorney's Docket No.: 07898-051001  
Client Ref. No.: PH-709US

C-A 1655

#12

9-6-00

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: *et al.*

Art Unit : 1655

Examiner : B. Forman

Serial No. : 09/451,666

Filed : November 30, 1999

Title : BIOCHIP AND METHOD FOR PRODUCING THE SAME

Commissioner for Patents  
Washington, D.C. 20231

RECEIVED

SEP 01 2000

TECH CENTER 1600/2900

INFORMATION DISCLOSURE STATEMENT

Applicant submits the references listed on the attached form PTO-1449, copies of which are enclosed. A copy of a communication from a foreign patent office in a counterpart application is also enclosed.

Submitted herewith is an English translation of the following foreign language references, or portions thereof:

Desig. ID	Source
AL	DE 2852886

This Statement is being filed after a first Office Action on the merits, but before receipt of a final Office Action or a Notice of Allowance. I, the undersigned, hereby certify that each item of information contained in this statement was cited in a communication from a foreign patent office in a counterpart foreign application, the communication being dated June 20, 2000, which is not more than three months prior to the filing of this Statement.

Applicants do not believe that any fees are due with this Statement. If, however, it is determined that fees are owed, please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 8/28/00

Robert M. Bedgood  
Robert M. Bedgood, Ph.D.  
Reg. No. 43,488

Fish & Richardson P.C.  
4350 La Jolla Village Drive, Suite 500  
San Diego, CA 92122  
Telephone: (858) 678-5070  
Facsimile: (858) 678-5099

I hereby certify under 37 CFR §1.8(a) that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, Washington, D.C. 20231.

Date of Deposit

August 28, 2000



P.B. 5818 - Patentlaan 2  
2280 HV Rijswijk (ZH)  
☎ +31 70 340 2040  
TX 31651 epo nl  
FAX +31 70 340 3016

Europäisches  
Patentamt

Zweigstelle  
in Den Haag  
Recherchen-  
abteilung

European  
Patent Office

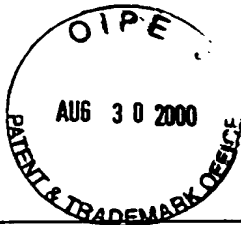
Branch at  
The Hague  
Search  
division

Office européen  
des brevets

Département à  
La Haye  
Division de la  
recherche

11/12/A  
9-6-00

Liesegang, Roland, Dr.-Ing.  
FORRESTER & BOEHMERT  
Franz-Joseph-Strasse 38  
80801 München  
ALLEMAGNE



FORRESTER & BOEHMERT	
Eing.	23. Juni 2000
Frist:	

COPY

RECEIVED

SEP 01 2000  
TECH CENTER 1600/2000

Datum/Date

20.06.00

Zeichen/Ref./Réf. FB 8785	Anmeldung Nr./Application No./Demande n°/Patent Nr./Patent No./Brevet n°. 99123786.8
Anmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire Hitachi Software Engineering Co., Ltd.	

## COMMUNICATION

The European Patent Office herewith transmits

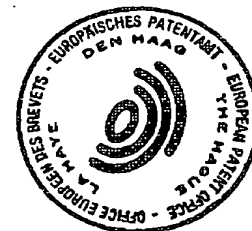
- ☒ the European search report
- ☐ the declaration under Rule 45 EPC
- ☐ the partial European search report under Rule 45 EPC
- ☐ the supplementary European search report concerning the international application under Article 157(2) EPC relating to the above-mentioned European patent application. Copies of the documents cited in the search report are enclosed.

The following specifications given by the applicant have been approved by the Search Division :

- ☐ Abstract ☐ Title ☐ Figure
- ☐ The abstract was modified by the Search Division and the definitive text is attached to this communication.
- ☐ The following figure will be published with the abstract, since the Search Division considers that it better characterises the invention than the one indicated by the applicant.

Figure:

- ☒ Additional copy(copies) of the documents cited in the European search report.



## REFUND OF THE SEARCH FEE

If applicable under Article 10 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.

EPO Form 1507 02.93

EPO Form 1507 02.93				



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
P,X	EP 0 908 725 A (SEIKO EPSON) 14 April 1999 (1999-04-14) * claims 1,5,6 * * column 2, line 43 - line 49 * * column 4, line 32 - column 5, line 22 * ---	1-7	G01N33/543 C12Q1/68 B01L3/02
P,X	EP 0 895 082 A (CANON KK) 3 February 1999 (1999-02-03) * page - *	1-7	
X	EP 0 469 445 A (BOEHRINGER MANNHEIM GMBH) 5 February 1992 (1992-02-05)	1-7	
Y	* claims * * page 2, line 34 - page 3, line 2 * * page 4, line 5 - line 16 *	1-7	
P,X	WO 99 57323 A (BAYLOR COLLEGE MEDICINE) 11 November 1999 (1999-11-11) * claims 31-41,44 * * page 7, line 9 - line 30 * * example 3 * * figure 3 *	1-7	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
P,X	WO 99 07888 A (BULYK MARTHA L ;CHURCH GEORGE M (US); HARVARD COLLEGE (US)) 18 February 1999 (1999-02-18) * claims 1-15 * * page 12, line 27 - page 13, line 16 *	1-7	G01N C12Q B01J B01D B01L
X	US 4 591 570 A (CHANG TSE-WEN) 27 May 1986 (1986-05-27) * claims 1-16 * * column 3, line 31 - line 55 * --- -/--	1-7	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 31 May 2000	Examiner Routledge, B
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... & : member of the same patent family, corresponding document	

2  
EPO FORM 1503 03.82 (P04C01)



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
✓ X	SCHEMA M ET AL: "Microarrays: biotechnology's discovery platform for functional genomics" TRENDS IN BIOTECHNOLOGY,GB,ELSEVIER PUBLICATIONS, CAMBRIDGE, vol. 16, no. 7, 1 July 1998 (1998-07-01), pages 301-306, XP004145643 ISSN: 0167-7799	1-7	
Y	* page 303 - page 304 *	1-7	
✓ X	O'DONNELL-MALONEY M J ET AL: "Microfabrication and array technologies for DNA sequencing and diagnostics" GENETIC ANALYSIS: BIOMOLECULAR ENGINEERING,US,ELSEVIER SCIENCE PUBLISHING, vol. 13, no. 6, 1 December 1996 (1996-12-01), pages 151-157, XP004017264 ISSN: 1050-3862	1-7	
Y	* page 153 - page 154 *	1-7	
✓ E	WO 00 01798 A (CARTESIAN TECHNOLOGIES INC) 13 January 2000 (2000-01-13) * claims 1-12 * * figure 1 * * page 3, line 19 - line 28 * * page 5, line 5 - line 8 *	8-12	TECHNICAL FIELDS SEARCHED (Int.Cl.7)
✓ P,X	WO 99 05308 A (TABONE JOHN C ;RAPIGENE INC (US); MOYNIHAN KRISTEN (US); NESS JEFF) 4 February 1999 (1999-02-04) * figures 2A,,2B,,4A,4B * * page 6, line 11 - line 20 * * page 9, line 3 - line 13 * * page 10, line 22 - page 11, line 3 * ----- -/--	8-12	
2 The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 31 May 2000	Examiner Routledge, B
<div>CATEGORY OF CITED DOCUMENTS</div> <div><div>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</div><div>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- &amp; : member of the same patent family, corresponding document</div></div>			

EPO FORM 1503 03.82 (P04C01)



European Patent  
Office

EUROPEAN SEARCH REPORT

Application Number  
EP 99 12 3786

FR 721

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
✓ P, X	WO 99 04896 A (TABONE JOHN C ; RAPIGENE INC (US); MOYNIHAN KRISTEN (US); NESS JEFF) 4 February 1999 (1999-02-04) * claims 30, 59 * * figures 2A, 2B, 4A, 4B * * page 4, line 11 - line 20 * * page 12, line 5 - line 21 * * page 13, line 6 - line 16 * * page 14, line 25 - page 15, line 6 *	8-12	<div>TECHNICAL FIELDS SEARCHED (Int.Cl.7)</div>
✓ X	WO 98 20020 A (KOSTER HUBERT ; LITTLE DANIEL P (US); SEQUENOM INC (US); CANTOR CHA) 14 May 1998 (1998-05-14) * claims * * page 5, line 1 - line 12 * * page 13, line 14 - line 17 * * page 53, line 21 - page 54, line 11 *	8-12	
✓ X	WO 98 20019 A (REUTER DIRK ; HIGGINS G SCOTT (DE); LOUGH DAVID M (GB); KOESTER HUB) 14 May 1998 (1998-05-14) * figures 9A-9E * * page 5, line 28 - page 6, line 4 * * page 19, line 11 - line 17 *	8-12	
✓ X	WO 97 43447 A (HARVEY THOMAS B III ; ACKLEY DONALD E (US); MARACAS RICHARD (US); M) 20 November 1997 (1997-11-20) * claims * * figures 11, 12 * * page 11, line 21 - page 12, line 11 *	8-12	
✓ X	US 5 557 213 A (REUTER MARK S ET AL) 17 September 1996 (1996-09-17) * claims * * figures 2-7 * * column 5, line 16 - column 6, line 50 * --- -/--	8-12	
2	The present search report has been drawn up for all claims		
Place of search THE HAGUE		Date of completion of the search 31 May 2000	Examiner Routledge, B
<div>CATEGORY OF CITED DOCUMENTS</div> <div>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</div> <div>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons --- &amp; : member of the same patent family, corresponding document</div>			

EPO FORM 1503 03.82 (P04C01)



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	US 5 457 041 A (GINAVEN ROBERT O ET AL) 10 October 1995 (1995-10-10) * claims 6-10 * * figures 1,,4A,,4B * * column 4, line 11 - line 21 * * column 6, line 35 - line 44 * ---	8-12	
X	US 5 262 128 A (LEIGHTON STEPHEN B ET AL) 16 November 1993 (1993-11-16) * claims 10-12 * * figure 6 * * column 2, line 42 - line 45 * * column 7, line 22 - line 30 * ---	8-12	
X	DE 28 52 886 A (FEINMETALL GMBH) 19 June 1980 (1980-06-19) * claims * * figures 1-4 * -----	8-12	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 31 May 2000	Examiner Routledge, B
<b>CATEGORY OF CITED DOCUMENTS</b> X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03.82 (P04C01)



The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1-7

Biochip comprising an array of probes spotted onto a surface wherein the binding agent used to bind the probe is only spotted at the same locations on the surface as the probes. Methods for making said biochip.

2. Claims: 8-12

Pin having a recessed end, said recess taking the form of a concave shape, groove or radially shaped groove. Method of making biochip using said pin.



### CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

### LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:



**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 99 12 3786

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

31-05-2000

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 908725	A	14-04-1999	JP 2000033712 A	02-02-2000
			CA 2248517 A	30-03-1999
EP 0895082	A	03-02-1999	JP 11187900 A	13-07-1999
EP 0469445	A	05-02-1992	DE 4024544 A	06-02-1992
			AT 138197 T	15-06-1996
			AU 635143 B	11-03-1993
			AU 8116791 A	06-02-1992
			CA 2047637 A	03-02-1992
			DE 59107805 D	20-06-1996
			FI 913668 A	03-02-1992
			IL 99043 A	27-11-1995
			JP 2607320 B	07-05-1997
			JP 4262256 A	17-09-1992
			NO 913000 A	03-02-1992
			NZ 239060 A	26-03-1993
			PT 98514 A	30-09-1993
			US 5378638 A	03-01-1995
			ZA 9106054 A	29-04-1992
WO 9957323	A	11-11-1999	US 6048695 A	11-04-2000
			AU 3786199 A	23-11-1999
WO 9907888	A	18-02-1999	AU 8588498 A	01-03-1999
			EP 1003912 A	31-05-2000
US 4591570	A	27-05-1986	AT 77699 T	15-07-1992
			DE 3485785 A	30-07-1992
			DE 3485785 T	24-12-1992
			EP 0135541 A	03-04-1985
			JP 60500732 T	16-05-1985
			WO 8403151 A	16-08-1984
WO 0001798	A	13-01-2000	AU 4861099 A	24-01-2000
WO 9905308	A	04-02-1999	AU 8504598 A	16-02-1999
			EP 0996500 A	03-05-2000
WO 9904896	A	04-02-1999	AU 8582598 A	16-02-1999
			EP 0998347 A	10-05-2000
WO 9820020	A	14-05-1998	US 6024925 A	15-02-2000
			AU 5106998 A	29-05-1998
			AU 5198098 A	29-05-1998
			DE 19782095 T	23-03-2000

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 99 12 3786

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

31-05-2000

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9820020     A		DE 19782096 T	23-03-2000
		EP 0954612 A	10-11-1999
		EP 0937096 A	25-08-1999
		NO 992168 A	06-07-1999
		NO 992169 A	06-07-1999
		WO 9820166 A	14-05-1998
		AU 5247298 A	29-05-1998
		DE 19782097 T	14-10-1999
		EP 0937097 A	25-08-1999
		NO 992167 A	05-07-1999
		WO 9820019 A	14-05-1998
WO 9820019     A	14-05-1998	US 5900481 A	04-05-1999
		US 6024925 A	15-02-2000
		AU 5106998 A	29-05-1998
		AU 5247298 A	29-05-1998
		DE 19782095 T	23-03-2000
		DE 19782097 T	14-10-1999
		EP 0954612 A	10-11-1999
		EP 0937097 A	25-08-1999
		NO 992167 A	05-07-1999
		NO 992168 A	06-07-1999
		WO 9820166 A	14-05-1998
		AU 5198098 A	29-05-1998
		DE 19782096 T	23-03-2000
		EP 0937096 A	25-08-1999
		NO 992169 A	06-07-1999
		WO 9820020 A	14-05-1998
WO 9743447     A	20-11-1997	US 5731152 A	24-03-1998
		AU 2250297 A	05-12-1997
		BR 9702230 A	23-02-1999
		CA 2226662 A	20-11-1997
		CN 1193358 A	16-09-1998
		FR 2748568 A	14-11-1997
		GB 2317180 A	18-03-1998
		US 6048691 A	11-04-2000
		US 6013446 A	11-01-2000
US 5557213     A	17-09-1996	NONE	
US 5457041     A	10-10-1995	NONE	
US 5262128     A	16-11-1993	AU 6640190 A	16-05-1991
		EP 0497885 A	12-08-1992
		WO 9105519 A	02-05-1991

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

EP 99 12 3786

31-05-2000

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 2852886      A	19-06-1980	NONE	

---

FORM P0459



P.B. 5818 - Patentlaan 2  
2280 HV Rijswijk (ZH)  
(070) 340 2040  
Tx 31651 epo nl  
FAX (070) 340 3016

Europäisches  
Patentamt  
Zweigstelle in  
Den Haag  
Recherchen-  
abteilung

European  
Patent Office  
Branch at  
The Hague  
Search  
Division

Office européen  
des brevets  
Département a  
La Haye  
Division de la  
recherche

Liesegang, Roland, Dr.-Ing.  
FORRESTER & BOEHMERT  
Franz-Joseph-Strasse 38  
80801 München  
ALLEMAGNE

FORRESTER & BOEHMERT

Eing.: 12. April 2000

Datum/Date

10. 04. 2000

Frist:

10.5.00

Zeichen/Ref./Réf.

FB 8785

Anmeldung Nr./Application No./Demande n°./Patent Nr./Patent No./Brevet n°

99123786.8-1219/

Anmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire

Hitachi Software Engineering Co., Ltd.

## COMMUNICATION

The European Patent Office herewith transmits the partial European search report under Rule 46(1) EPC relating to the above-mentioned European patent application.

Copies of the documents cited in the search report are enclosed.

The applicant's attention is drawn to the following:

The search Division informs the applicant that the European search report will also cover inventions other than the invention first mentioned in the claims, a further search fee must be paid for each of these inventions, within **ONE MONTH** after notification of this communication.

**Note to users of the automatic debiting procedure:**

Unless the EPO receives prior instructions to the contrary, the search fee(s) will be debited on the last day of the period for payment. For further details see the Arrangements for the automatic debiting procedure, Supplement to OJ EPO 06/1994.

- ☐ The abstract was modified by the Search Division and the definitive text is attached to the present communication.
- ☐ The Search Division considers that the present European patent application does not comply with the provisions of the European Patent Convention to such an extent that it is not possible to carry out a meaningful search into the state of the art on the basis of some of the claims.
- Claims searched completely:
- Claims searched incompletely:
- Claims not searched:
- Reason for the limitation of the search:
- ☒ Additional copy (copies) of the documents cited in the European search report.

REGISTERED LETTER



DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim CLASSIFICATION OF THE APPLICATION (Int.CI.7)
P,X	EP 0 908 725 A (SEIKO EPSON) 14 April 1999 (1999-04-14) * claims 1,5,6 * * column 2, line 43 - line 49 * * column 4, line 32 - column 5, line 22 *	1-7  G01N33/543 C12Q1/68
P,X	EP 0 895 082 A (CANON KK) 3 February 1999 (1999-02-03) * page - *	1-7
X	EP 0 469 445 A (BOEHRINGER MANNHEIM GMBH) 5 February 1992 (1992-02-05)	1-7
Y	* claims * * page 2, line 34 - page 3, line 2 * * page 4, line 5 - line 16 *	1-7
P,X	WO 99 57323 A (BAYLOR COLLEGE MEDICINE) 11 November 1999 (1999-11-11) * claims 31-41,44 * * page 7, line 9 - line 30 * * example 3 * * figure 3 *	1-7
	--- -/---	TECHNICAL FIELDS SEARCHED (Int.CI.7)  G01N C12Q
<b>LACK OF UNITY OF INVENTION</b>		
The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:		
see sheet B		
The present partial European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims.		
Place of search	Date of completion of the search	Examiner
THE HAGUE	9 March 2000	Routledge, B
CATEGORY OF CITED DOCUMENTS		
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		
T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... & : member of the same patent family, corresponding document		



DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.CI.7)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
P,X	WO 99 07888 A (BULYK MARTHA L ;CHURCH GEORGE M (US); HARVARD COLLEGE (US)) 18 February 1999 (1999-02-18) * claims 1-15 * * page 12, line 27 - page 13, line 16 * ---	1-7	
X	US 4 591 570 A (CHANG TSE-WEN) 27 May 1986 (1986-05-27) * claims 1-16 * * column 3, line 31 - line 55 * ---	1-7	TECHNICAL FIELDS SEARCHED (Int.CI.7)
✓ X	SCHENA M ET AL: "Microarrays: biotechnology's discovery platform for functional genomics" TRENDS IN BIOTECHNOLOGY,GB,ELSEVIER PUBLICATIONS, CAMBRIDGE, vol. 16, no. 7, 1 July 1998 (1998-07-01), pages 301-306, XP004145643 ISSN: 0167-7799 * page 303 - page 304 * ---	1-7	
Y	O'DONNELL-MALONEY M J ET AL: "Microfabrication and array technologies for DNA sequencing and diagnostics" GENETIC ANALYSIS: BIOMOLECULAR ENGINEERING,US,ELSEVIER SCIENCE PUBLISHING, vol. 13, no. 6, 1 December 1996 (1996-12-01), pages 151-157, XP004017264 ISSN: 1050-3862 * page 153 - page 154 * -----	1-7	
Y		1-7	



The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1-7

Biochip comprising an array of probes spotted onto a surface wherein the binding agent used to bind the probe is only spotted at the same locations on the surface as the probes. Methods for making said biochip.

2. Claims: 8-12

Pin having a recessed end, said recess taking the form of a concave shape, groove or radially shaped groove. Method of making biochip using said pin.

The application lacks novelty as the single general concept linking the two inventions/groups of inventions is merely the use of pins in spotting, a well known technique for creating arrays using nanovolumes, see TIBTECH and Genetic Analysis citations. Furthermore the problem addressed by claims 1-7 is to reduce signal/noise ratio produced by binding of analyte directly to the binding agent rather than to the probe attached to the binding agent itself, the solution being to only provide the binding agent for the probe at the same positions as the probes. The problem of claims 8-12 is to provide an improved pin for use in spotting nanovolumes. The proposed solution is the use of a recessed tip. Thus the two inventions/group of inventions provide different solutions to different problems.

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 99 12 3786

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

09-03-2000

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
EP 908725	A	14-04-1999	CA	2248517 A	30-03-1999
EP 0895082	A	03-02-1999	JP	11187900 A	13-07-1999
EP 0469445	A	05-02-1992	DE	4024544 A	06-02-1992
			AT	138197 T	15-06-1996
			AU	635143 B	11-03-1993
			AU	8116791 A	06-02-1992
			CA	2047637 A	03-02-1992
			DE	59107805 D	20-06-1996
			FI	913668 A	03-02-1992
			IL	99043 A	27-11-1995
			JP	2607320 B	07-05-1997
			JP	4262256 A	17-09-1992
			NO	913000 A	03-02-1992
			NZ	239060 A	26-03-1993
			PT	98514 A	30-09-1993
			US	5378638 A	03-01-1995
			ZA	9106054 A	29-04-1992
WO 9957323	A	11-11-1999	NONE		
WO 9907888	A	18-02-1999	AU	8588498 A	01-03-1999
US 4591570	A	27-05-1986	AT	77699 T	15-07-1992
			DE	3485785 A	30-07-1992
			EP	0135541 A	03-04-1985
			JP	60500732 T	16-05-1985
			WO	8403151 A	16-08-1984